Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Target 17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

Indicator 17.8.1: Proportion of individuals using the Internet

# Institutional information

## Organization(s):

International Telecommunication Union (ITU)

# Concepts and definitions

## Definition:

The indicator proportion of individuals using the Internet is defined as the proportion of individuals who used the Internet from any location in the last three months.

## Concepts:

The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer - it may also be by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed or mobile network.

## Rationale:

The Internet has become an increasingly important tool to access public information, which is a relevant means to protect fundamental freedoms. The number of Internet users has increased substantially over the last decade and access to the Internet has changed the way people live, communicate, work and do business. Internet uptake is a key indicator tracked by policy makers and others to measure the development of the information society and the growth of Internet content – including user-generated content – provides access to increasing amounts of information and services.

Despite growth in networks, services and applications, information and communication technology (ICT) access and use is still far from equally distributed, and many people cannot yet benefit from the potential of the Internet. This indicator highlights the importance of Internet use as a development enabler and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all development domains. Classificatory variables for individuals using the Internet – such as age, sex, education level or labour force status – can help identify digital divides in individuals using the Internet. This information can contribute to the design of targeted policies to overcome those divides.

The proportion of individuals using the Internet is an established indicator and also one of the three ICT-related Millennium Development Goal (MDG) indicators (for Target 8F). It is part of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). It is also included in the ITU ICT Development Index, and thus considered a key metric for international comparisons of ICT developments.

## Comments and limitations:

While the data on the percentage of individuals using the Internet are very reliable for countries that have collected the data through official household surveys, they are less reliable in cases where the number of Internet users is estimated by ITU. ITU is encouraging all countries to collect data on this indicator through official surveys and the number of countries with official data for this indicator is increasing.

# Methodology

## Computation method:

For countries that collect data on this indicator through an official survey, this indicator is calculated by dividing the total number of in-scope individuals using the Internet (from any location) in the last 3 months by the total number of in-scope individuals. For countries that have not carried out a survey, data are estimated (by ITU) based on the number of Internet subscriptions and other socioeconomic indicators (GNI per capita) and on the time series data.

## Treatment of missing values:

- ***At country level:***

In the absence of official household surveys, ITU estimates the percentage of individuals using the Internet (Internet users as a percentage of total population) using various techniques, such as hot-deck imputation, regression models and time series forecast, using data such as income, education and other ICT indicators.

- ***At regional and global levels:***

In the absence of official household surveys, ITU estimates the percentage of individuals using the Internet (Internet users as a percentage of total population) using various techniques, such as hot-deck imputation, regression models and time series forecast, using data such as income, education and other ICT indicators.

## Regional aggregates:

Country-level data on the percentage of individuals using the Internet (Internet users as a percentage of total population) are first estimated using various techniques, such as hot-deck imputation, regression models and time series forecast. Hot-deck imputation uses data from countries with “similar” characteristics, such as GNI per capita and geographic location. In cases when it is not possible to find an adequate imputation based on similar cases, regression models based on a set of countries with relatively similar characteristics are applied.

Once the country-level percentages are available for all countries, the number of Internet users are calculated by multiplying the percentages to the population of the country. The regional and world

total Internet users were calculated by summing the country-level data. The aggregate percentages were calculated by dividing the regional totals by the population of respective groups.

## Sources of discrepancies:

Differences between global and national figures may arise when countries use a different definition than the one agreed internationally and used by ITU. Discrepancies may also arise in cases where the age scope of the surveys differs, or when the country only provides data for a certain age group and not the total population.

# Data sources

## Description:

The indicator proportion of individuals using the Internet is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). Data on individuals using the Internet are collected through an annual questionnaire that ITU sends to national statistical offices (NSO). In this questionnaire ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and situation of the country for other related indicators (ICT and economic).

For most developed and an increasing number of developing countries, percentage of individuals using the Internet data are based on methodologically sound household surveys conducted by national statistical agencies. If the NSO has not collected Internet user statistics, then ITU estimates the percentage of individuals using the Internet.

Data are usually not adjusted, but discrepancies in the definition, age scope of individuals, reference period or the break in comparability between years are noted in a data note. For this reason, data are not always strictly comparable.

Some countries conduct a household survey where the question on Internet use is included every year. For others, the frequency is every two or three years. Overall, the indicator is available for 100 countries at least from one survey in the years 2011-2014.

ITU makes the indicator available for each year for 200 economies by using survey data and estimates for almost all countries of the world.

## Collection process:

Data on individuals using the Internet are collected through an annual questionnaire that ITU sends to national statistical offices (NSO). In this questionnaire ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and situation of the country for other related indicators (ICT and economic).

# Data availability

Overall, the indicator is available for 100 countries at least from one survey in the years 2011-2014.

ITU makes the indicator available for each year for 200 economies by using survey data and estimates for almost all countries of the world.

## Disaggregation:

For countries that collect this data on the proportion of individuals using the Internet through an official survey, and if data allow breakdown and disaggregation, the indicator can be broken down by region (geographic and/or urban/rural), by sex, by age group, by educational level, by labour force status, and by occupation. ITU collects data for all of these breakdowns from countries.

# Calendar

## Data collection:

Year-end estimates are released in June of the following year through the ITU World Telecommunication/ICT Indicators Database. Data are also available at no cost through the ITU ICT Eye, see: http://www.itu.int/ITU-D/ict/

## Data release:

June 2016

# Data providers

National Statistical Office (NSO)

# Data compilers

ITU

# References

## URL:

http://www.itu.int/en/ITU-D/Statistics/Pages/default.aspx

## References:

ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014, see: http://www.itu.int/en/ITU-D/Statistics/Pages/publications/manual2014.aspx

# Related indicators as of February 2020

1.4, 2.c, 4.3, 4.4, 5.b, 9.c, 10.3, 12.8, 16.10, 16.6, 16.7, 16.10, 17.6